

In the Specification

Please replace the paragraph on page 11, lines 3-11 of the specification with the following paragraph:

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~~Figure 13A and Figure 13-B~~ Figures 13A-1, 13A-2, 13B-1, and 13B-2 show graphs comparing the survival rate and engraftment of human hematopoietic cells in SCID mice cotransplanted with the purified bone marrow MPCs of the present invention vs. unpurified bone marrow stromal cells. In the line graphs provided (Figures 13A-1 and 13B-1) the line with diamonds represents MPCs and bone marrow mononuclear cells, squares represents bone marrow mononuclear cells only, triangles represents unfractionated bone marrow stromal cells, the Xs represent MPCs only, and the circles represent the control. In the bar graphs (Figures 13A-2 and 13B-2), the gray bars represent mice that survived and the black bars represent mice with engraftment.

Please replace the paragraph on page 17, lines 1-7 of the specification with the following paragraph:

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Another major reason that purified cells are desirable is that Dexter cultures also contain a significant percentage of highly immunogenic macrophages that can cause onset of GvHD after transplantation. The MPCs of the present invention are purified to ~95% free of macrophages and hematopoietic cells. Note the increased survival rate in SCID mice that received purified MPCs versus those that received unfractionated bone marrow stromal cells in ~~Figure 13B~~ Figures 13B-1 and 13B-2.

Please replace the paragraph on page 19, lines 10-19 of the specification with the following paragraph:

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Unlike prior methods, the isolated MPCs of the present invention support human hematopoiesis in the SCID mouse model as effectively as whole marrow stroma. The transplantation of human marrow mononuclear cells combined with purified MPCs results in dramatically vigorous engraftment of human cells in spleen, bone marrow, liver, pancreas, lungs, stomach, and paravertebral neuronal ganglia of SCID mice (**Figures 10A-H** and **Figures 11A-C**). By contrast,

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cont mice receiving human bone marrow mononuclear cells alone or MPCs alone expectedly showed no detectable evidence of human hematopoietic cell engraftment (Figure 13A and Figure 13B Figures 13A-1, 13A-2, 13B-1, and 13B-2).

Please replace the paragraph on page 19, lines 23-29 of the specification with the following paragraph:

B4 The present invention also provides for a method of preventing or treating GvHD. The highest mortality rate, Figure 13B Figures 13B-1 and 13B-2, was observed in mice receiving the unpurified whole marrow stroma and the bone marrow mononuclear cells. The increased mortality observed is related to the presence of highly immunogenic macrophages and consequent GvHD. The mice with the highest survival rate, shown in Figure 13A Figures 13A-1 and 13A-2, were the mice receiving purified MPCs and bone marrow mononuclear cells.

Please replace the paragraph on page 38, lines 15-31 of the specification with the following paragraph:

B5 ~~Figure 13A and Figure 13B~~ Figures 13A-1, 13A-2, 13B-1, and 13B-2 show graphs comparing the survival rate and engraftment of human hematopoietic cells in SCID mice cotransplanted with the purified bone marrow MPCs of the present invention versus unpurified marrow stromal cells. Mice in Figure 13A Figures 13A-1 and 13A-2 received 300 cGy irradiation dose and mice in Figure 13B Figures 13B-1 and 13B-2 received 200 cGy of irradiation. ~~Figure 13A and Figure 13B~~ Figures 13A-1, 13A-2, 13B-1, and 13B-2 show comparable engraftment of human hematopoietic cells in SCID mice cotransplanted with purified MPCs versus unpurified bone marrow stromal cells and the markedly enhanced survival of mice receiving purified MPCs. Notably, no engraftment was observed in mice receiving bone marrow mononuclear cells alone.

Please replace the paragraph on page 38, lines 26-31 of the specification with the following paragraph:

B6 The highest mortality rate, Figure 13B Figures 13B-1 and 13B-2, was observed in mice receiving the unpurified stromal cells and the bone marrow mononuclear cells. The increased

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mortality observed can be related to the presence of highly immunogenic macrophages and consequent GvHD. The mice with the highest survival rate, as shown in ~~Figure 13A~~ Figures 13A-1 and 13A-2, were the mice receiving purified MPCs and bone marrow mononuclear cells.
